Excluding a giant coronary aneurysm by implantation of a covered stent

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Conclusions

The combination of CTA and perfusion correctly identifies patients with flow limiting CAD defined as $\geq$ 50 stenosis by ICA causing a perfusion defect by SPECT/MPI. The exclusion of patients with previous myocardial infarction or known CAD increased the diagnostic power of combined CTA–CTP in the non-invasive detection of flow limiting CAD defined by ICA-SPECT/MPI.

Supplementary material

Supplementary material is available at *European Heart Journal* online.

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Conflict of interest: M.D., A.deR., K.K., J.B., R.C., C.C., M.F.D.C., R.G., J.H., M.J., K.K., S.K., J. M.M., S.N., S.Y.T., A.V., V.C.M., K.Y., J.A.C.L., C.N., N.P., F.R., and A.A.-Z. report institutions receive grant support from Toshiba Medical System. M.D., S.Y.T., N.P., and J.H. are on the speaker's bureau for Toshiba Medical Systems. M.D., M.J., K.K., S.K., and R.G. report grant support from GE Healthcare. K.K. grant support form Philips Electronics, Bayer, Gerber, and Eisai. M.D. and J.A.C.L. grant support from Bracco Diagnostics. S.K. grant support from Daiichi-Sankyo Pharmatheutical. M.J. grant support from AZE and Ziosoft. M.D. grant support from: European Regional Development Fund, German Heart Foundation, Guerbet, German Science Foundation, and German Federal Ministry of Education and Research. M.D. is on the speaker's bureau for Guerbet, and Bayer-Schering. M.L. is a member of Speakers bureaus for Medtronic Inc, and Eesculap Akademie. M.D. consults for Guerbet and Richard George for ICON Medical Imaging. R.G. reports paid board membership for GE Healthcare and Astellas Pharma.

References

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CARDIOVASCULAR FLASHLIGHT

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Excluding a giant coronary aneurysm by implantation of a covered stent

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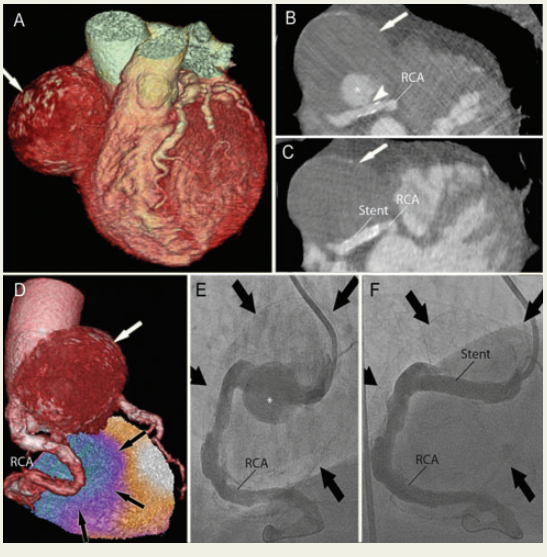

A 61-year-old gentleman underwent coronary computed tomography (CT) angiography (CCTA) for atypical chest pain, which revealed partially ectatic, diffusely diseased coronary arteries and a giant, eccentric, and partially thrombosed aneurysm in the proximal segment of the right coronary artery (RCA) (size: 7 × 5.5 × 6 cm; *Panels A* and *B*, arrows). On invasive angiography, the true size of the aneurysm was underestimated due to extensive thrombosis (*Panels B* and *E*, asterisk marking perfused part). The perfused aneurysm was connected to the RCA through a thin neck (*Panel B*, arrowhead), resembling a pseudoaneurysm rather than a true aneurysm. Myocardial perfusion SPECT revealed a non-transmural inferior scar without reversible ischaemia (*Panel D*: Hybrid SPECT/CT, black arrows).

Exclusion of the RCA aneurysm was performed by placement of a 4.8 × 26 mm covered stent (Graftmaster RX, Abbott Vascular, Abbott Park, IL, USA). Distal diameter mismatch was corrected by post-dilatation with an oversized balloon-catheter (Avion Plus 6.0/20 mm, Medtronic Invatec, Frauenfeld, Switzerland) (*Panel F*). Repeat CCTA 4 months later showed a fully excluded aneurysm without further extravasation of contrast (*Panel C*). Triple therapy with aspirin, clopidogrel, and phenprocoumon was started for 3 months, followed by clopidogrel and phenprocoumon for another 9 months.

Coronary artery aneurysms, particularly of such giant dimensions, are rare findings on coronary angiograms and may be associated with extensive atherosclerosis or a history of vascular inflammatory disease (e.g. Kawasaki syndrome). Spontaneous ruptures of coronary aneurysms are exceedingly rare. However, due to the paucity of data, there is no evidence for the best treatment of such a giant aneurysm. In this particular case, the decision to exclude the aneurysm with a covered stent was taken to avoid rupture and distal embolization.